REMARKS

Reconsideration of this application, as amended, is requested. Claims 1-24 remain in the application. Independent claims 1 and 2 have been amended to define the invention more clearly and to address rejections under 35 USC 112, second paragraph. The amendments to claims 1 and 2 clearly are supported by the original specification as explained further below.

Claims 6-9 and 17-20 also were amended into independent form and to address rejections under 35 USC 112, second paragraph, as explained further herein.

The Examiner objected to page 38 of the clean version of the substitute specification. In particular, the Examiner noted that the clean version of the substitute specification included markings at page 38, lines 13 and 17. Correction was required.

The specification has been amended to remove the markings that inadvertently remained on page 38 of the clean version of the substitute specification. Additionally, a new clean version of page 38 is attached and can be employed by the Examiner if convenient.

The applicants and the assignee are pleased to note that the Examiner identified original claims 6-9 and 17-20 as being directed to patentable subject matter. The Examiner indicated that each of these claims would be allowed if amended or rewritten into independent form with all of the limitations of the base claim and the intervening claims and with appropriate amendments to address the rejections under 35 USC 112, second paragraph.

Claims 6-9 and 17-20 have been amended into independent form with all of the limitations of the base claim and the intervening claims. Additionally, amended

independent claims 7, 8, 17 and 18 were amended to address the rejections under 35 USC 112, second paragraph. Accordingly, amended independent claims 6-9 and 17-20 are believed to be in condition for allowance.

Claims 1-5, 11, 12, 14-16, 20 and 23 were rejected under 35 USC 102(b) as being anticipated by Masazumi et al. (JP 2002-340741). Claims 3, 10, 14 and 21 were rejected under 35 USC 103(a) as being obvious over Masazumi et al. The Examiner identified elements of Masazumi et al. that were considered to correspond to the previously presented claims.

Amended independent claims 1 and 2 both relate to a structure monitor system for analyzing a physical quantity at a specified point of a structure. The structure monitor system of claim 1 includes a measuring means that uses an optical fiber sensor laid on the boundary of the structure. The measuring means of amended claim 1 is for measuring physical quantities of the structure at points on the boundary of the structure where the optical fiber sensor is laid. Amended claim 1 now recites "a setting and inputting means for inputting data to make a modeling for the structure." Amended claim 1 further recites a numerical analyzing means for calculating the physical quantity at the specified point of the structure by the numerical analysis method using the measured physical quantities. Additionally, the numerically analyzing means of amended claim 1 now is defined as receiving inputted data to make a modeling and remake a new modeling based on a result of the calculation of the physical quantity. A display means then is provided for displaying information on the analyzed physical quantity.

The original specification provides support for the amendments to claim 1. In this regard, the first full paragraph on page 29 of the clean version of the application refers

to the modeling for a crack C as the physical quantity that is to be analyzed. This paragraph explains that the modeling for the crack may be automatically carried out by the numerical analyzer 5 or may be manually carried out via the setting/inputting device 9. This aspect of the invention also is illustrated in FIG. 8. Additionally, the first full paragraph on page 30 of the clean version of the substitute specification explains how the position and shape of the crack C are determined. This information on the crack is displayed on the display unit 6 while being related to the shape of the disc body S. "Thereafter, the position and shape of the crack C are added to the shape of the disc body S (step S47), and the distortion distribution of the crack body S is monitored on this new shape substantially in the same manner as in the first embodiment." Step S47 in FIG. 8 refers to "update modeling for disc body" and supports the limitations that the numerically analyzing means receiving inputted data to make a modeling, and remake a new modeling based on a result of the calculation of the physical quantity" as recited in the amendments to claim 1. Still further, the paragraph bridging pages 31 and 32 of the clean version of the substitute specification explains that the structure monitoring system of the third embodiment has a basic construction common to the structure monitor system of the second embodiment, "but differs from the second embodiment in that an object to be monitored is not a distortion distribution, but a temperature distribution, and that an object to be identified is not a crack, but an abnormally high temperature part." Thus, FIG. 8 is believed to provide support for both the claimed setting and inputting means and the remaking of a new modeling based on a result of the calculation of the physical quantity when the physical quantity is a crack, a distortion or other like physical quantity. It is also submitted that the above-cited portions of the specification provide support for the remaking or updating of a

modeling based on a result of the calculation of the physical quantity as set forth in amended claim 1.

Independent claim 2 differs from claim 1 in that the physical quantity is at one point on a boundary or inside of the structure. Additionally, the numerically analyzing means of amended claim 2 is defined with greater particularity. However, amended independent claim 2 includes the same new limitations as described above and as supported by the original specification.

Masazumi et al. does not teach or suggest the limitations of amended claim 1 as described above. Rather, Masazumi et al. discloses a system that uses an optical fiber for predicting or monitoring damage to an oil storage tank. The optical fibers 4 and/or 5 are laid along a predetermined circumference on a peripheral wall of the tank 1. The predetermined circumference is set at a level H where a maximum distortion is likely to exist. The translated abstract of Masazumi et al. obtained through the database of the European Patent Office explains that "an optical fiber is laid over the entire periphery near the junction of a side plate joined to the bottom end plate of a storage tank, and the entire periphery of an appropriate height position from the bottom end plate." A peripheral distortion measurement value is calculated and an inclination angle then is calculated from the peripheral distortion measurement value. The calculated inclination angle is compared to a reference value, which is obtained experimentally in advance, to monitor a serious state.

In contrast to the invention defined by amended independent claims 1 and 2, the system of Masazumi et al. does not have any means for making a modeling, and certainly not the claimed "setting and inputting means for inputting data to make a

modeling for the structure." In this regard, the Examiner is respected to take notice of the fact that the 35 USC 112, sixth paragraph format used to define the setting and inputting means requires Masazumi et al. to suggest the function "inputting data to make a modeling for the structure" with structural components as disclosed in the subject application or equivalents thereof. Masazumi et al. clearly does not teach or suggest the claimed setting and inputting means for inputting data to make a modeling for the structure. Masazumi et al. also does not teach or suggest the claimed numerically analyzing means that performs the claimed function of "receiving inputting data to make a modeling and remake a new modeling based on a result of the calculation of the physical quantity." In sharp contrast to Masazumi et al., the claimed invention enables the modeling to be renewed each time a new calculation is performed. Accordingly, the claimed invention provides much more accurate monitoring, analysis and modeling than anything taught my Masazumi et al. Accordingly, it is submitted that amended independent claims 1 and 2 and their dependent claims 3-5, 10-12, 14-16 and 21-23 all are patentable over Masazumi et al.

Claims 13 and 24 were rejected under 35 USC 103(a) as being obvious over Masazumi et al. considered in view of Jaeger et al. (US 4,650,281). The Examiner acknowledged that the Masazumi et al. reference does not suggest an optical fiber sensor coated with a magnetically distortable member that is deformed according to a magnetic force. However, the Examiner turned to Jaeger et al. in an effort to overcome this admitted deficiency of Masazumi et al.

Claim 13 depends from amended independent claim 2 and claim 24 depends from amended independent claim 1. Hence, these dependent claims include all of the limitations of their respective independent claims as well as additional limitations. It is

submitted with due respect that the Jaeger et al. reference does not overcome the deficiencies of Masazumi et al. when applied to amended independent claims 1 and 2 for the reasons set forth above. Accordingly, claims 13 and 24 are not rendered obvious by the hypothetical combination of Masazumi et al. and Jaeger et al.

In view of the preceding amendments and remarks, it is submitted that all of the claims in the application are directed to patentable subject matter and allowance is solicited. The Examiner is urged to contact applicants attorney at the number below to expedite the prosecution of this application.

Respectfully submitted,

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